

UNITED STATES DISTRICT COURT  
DISTRICT OF NEVADA

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HALO ELECTRONICS, INC.,

Plaintiff,

v.

PULSE ENGINEERING, INC. and  
TECHNITROL, INC.,

Defendants.

2:07-CV-00331-PMP-PAL

ORDER

Presently before the Court is Plaintiff Halo Electronics, Inc.'s Markman Claim Construction Brief (Doc. #99), filed on September 17, 2009. Defendant Pulse Engineering, Inc. filed an Opposition (Doc. #115) on October 15, 2009. Plaintiff filed a Reply (Doc. #132) on November 19, 2009.

Also before the Court is Defendant Pulse Engineering, Inc.'s Markman Claim Construction Brief (Doc. #101), filed on September 17, 2009. Plaintiff Halo Electronics, Inc. filed an Opposition (Doc. #112) on October 15, 2009. Defendant filed a Reply (Doc. #134) on November 19, 2009.

Also before the Court is Defendant Pulse Engineering, Inc.'s Markman Claim Construction Brief Regarding Claims Added During Reexamination of the Halo Patents (Doc. #158) filed on January 21, 2010. Plaintiff Halo Electronics, Inc. filed an Opposition (Doc. #159) on February 4, 2010. Defendant filed a Reply (Doc. #166) on February 18, 2010. The Court held a hearing on these matters on May 27, 2010. (Mins. of Proceeding (Doc. #191).)

## I. BACKGROUND

Plaintiff Halo Electronics, Inc. (“Halo”) owns the legal rights to United States Patent Nos. 5,656,985 (the ‘985 Patent), 6,297,720 (the ‘720 Patent), 6,297,721 (the ‘721 Patent), 6,344,785 (the ‘785 Patent), and 6,662,431 (‘431 Patent).<sup>1</sup> The ‘985 Patent is the parent Patent from which the other Patents stem. The ‘985, ‘785, and ‘431 Patents have identical specifications, the latter two being “continuations” of the ‘985 Patent. The ‘489, ‘720, and ‘721 Patents also derive from the same disclosure as the ‘985 Patent, with some additional information added to their respective specifications. All the Patents relate to an improved design for an electronic surface-mount package. (Decl. of Kristopher Reed in Support of Pulse Eng’g Inc. & Technitrol, Inc.’s Opening Claim Constr. Br. [“Decl. in Support of Pulse’s Opening Br.”] (Doc. #102), Ex. A at 8 (1:4-18).) The package mounts to the surface of a printed circuit board inside electronic devices, such as computers and Internet routers, switches, and hubs. (*Id.*) Every patent claim asserted by Halo includes at least one “side wall,” “toroid transformer,” terminal pin “molded within” the package, and posts to which wires are attached.

Defendant Pulse Engineering, Inc. (“Pulse”) owns the legal rights to United States Patent Nos. 6,769,936 (the Gutierrez/’936 Patent) and 6,116,963 (the Shutter/’963 Patent). The Gutierrez Patent describes an improved design and method of manufacturing a single- or multi-connector assembly which may include electronic components. (Decl. of William Woodford in Support of Halo’s Opening Claim Constr. Br. [“Decl. in Support of Halo’s Opening Br.”] (Doc. #100), Ex. A at 16 (1:5-11).) The Shutter Patent is a microelectronic connector that incorporates a simplified design and permits rapid assembly

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<sup>1</sup> Halo also owns the legal rights to United States Patent 6,320,489 (the ‘489 Patent). The ‘489 Patent is part of the Patent family stemming from the ‘985 Patent. However, to narrow the issues in the case, Halo informed Pulse prior to the deadline for filing opening claim construction briefs that it would not assert any claims from this Patent.

1 by using a “bump and bend” arrangement in the first aspect of the invention, and a “snap”  
2 pin arrangement in the second aspect of the invention. (Id., Ex. C at 22-23 (2:25-64).)

3 Plaintiff Halo filed an Amended Complaint alleging Defendant Pulse is  
4 infringing on Halo’s ‘985, ‘720, ‘721, ‘785, and ‘431 Patents by selling surface-mount  
5 transformers embodying the patented inventions that contain an electronic surface-mount  
6 package including, but not limited to, parts numbers S558-5500-12-F, H1102NL, and  
7 HX1188NL. (First Am. Compl. for Patent Infringement [“Am. Compl.”] (Doc. #51) at  
8 ¶¶ 16-17.) In response, Defendant Pulse filed Counterclaims alleging Plaintiff Halo is  
9 infringing on Pulse’s ‘936 (Gutterrez) and ‘963 (Shutter) Patents by selling LAN products  
10 embodying the patented inventions, including but not limited to, Halo’s “FastJacks”  
11 connectors. (Ans. of Defs. Pulse Eng’g, Inc. & Technitrol, Inc. to First. Am. Compl.; &  
12 Countercl. of Def. Pulse Eng’g for Patent Infringement [“Pulse Answer”] (Doc. #60) at ¶  
13 11.)

14 In 2008, shortly after discovery began, the Court granted Pulse’s request to stay  
15 the litigation because a third party had asked the United States Patent and Trademark Office  
16 (“PTO”) to reexamine the validity of the five Halo patents in the suit. (See Mot. to Stay  
17 Pending Reexamination by Defs.’ Pulse Eng’g, Inc., Technitrol, Inc. (Doc. #70); Order  
18 Granting Mot. to Stay (Doc. #72).)<sup>2</sup> Upon completion of the reexamination, the PTO  
19 confirmed the validity of every claim in the five Halo patents asserted in this litigation and  
20 allowed Halo to add 66 additional claims. (See Decl. of John Adkisson in Support of Halo  
21 Electronics, Inc.’s Response to Defs.’ Opening Br. Re: Claims Added During  
22 Reexamination of the Halo Patents (Doc. #160), Exs. 1-5.) Halo thereafter asserted most of  
23 those new claims against Pulse, and Pulse contends that there are three newly-asserted

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25 <sup>2</sup> Approximately eight months later the Court vacated its Order to stay finding no good  
26 cause remained to stay the proceedings further given that reexamination of the patents at issue  
could take several years. (Order Vacating Order on Mot. to Stay (Doc. #79).)

1 claims that require construction by the Court.

## 2 **II. LEGAL STANDARDS**

3 Patent claim construction is a question of law for the Court. Markman v.  
4 Westview Instruments, Inc., 517 U.S. 370, 372 (1996). When interpreting claims, a court's  
5 primary focus should be on the intrinsic evidence of record, which consists of the claims,  
6 the specification, and the prosecution history. Phillips v. AWH Corp., 415 F.3d 1303,  
7 1314-17 (Fed. Cir. 2005) (en banc). The Court should begin by examining the claim  
8 language. Id. at 1312. Claim language should be viewed through the lens of a person of  
9 "ordinary skill in the relevant art at the time of the invention." SanDisk Corp v. Memorex  
10 Prods, Inc., 415 F.3d 1278, 1283 (Fed. Cir. 2005). If the claim language is clear on its  
11 face, then consideration of the other intrinsic evidence is limited "to determining if a  
12 deviation from the clear language of the claims is specified." Interactive Gift Exp., Inc. v.  
13 Compuserve Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001).

14 The Court should give the claim's words their "ordinary and customary  
15 meaning." Phillips, 415 F.3d at 1312-13 (quotation omitted). In construing a claim term's  
16 ordinary meaning, the context in which a term is used must be considered. ACTV, Inc. v.  
17 Walt Disney Co., 346 F.3d 1082, 1088 (Fed. Cir. 2003). Both asserted and unasserted  
18 claims of the patent also can add meaning to a disputed claim term as claim terms normally  
19 are used consistently throughout the patent. Phillips, 415 F.3d at 1314. Additionally, where  
20 the patents at issue "all derive from the same parent application and share many common  
21 terms, [the court] must interpret the claims consistently across all asserted patents. NTP,  
22 Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1293 (Fed. Cir. 2005).

23 "[C]laims must be read in view of the specification, of which they are a part."  
24 Phillips, 415 F.3d at 1315 (quotation omitted). The specification can offer "practically  
25 incontrovertible directions about a claim meaning." Abbott Labs. v. Sandoz, Inc., 566 F.3d  
26 1282, 1288 (Fed. Cir. 2009). For example, the patentee may act as its own "lexicographer"

1 and give a specialized definition of a claim term either explicitly or implicitly, in which  
2 case, the specification acts as a dictionary for the patent. Id.; see also Phillips, 415 F.3d at  
3 1321. “Likewise, inventors and applicants may intentionally disclaim, or disavow, subject  
4 matter that would otherwise fall within the scope of the claim.” Abbott Labs., 566 F.3d at  
5 1288.

6 “When consulting the specification to clarify the meaning of claim terms, courts  
7 must take care not to import limitations into the claims from the specification.” Id.  
8 “[A]lthough the specification may well indicate that certain embodiments are preferred,  
9 particular embodiments appearing in the specification will not be read into claims when the  
10 claim language is broader than such embodiments.” Tate Access Floors, Inc. v. Maxcess  
11 Techns., Inc., 222 F.3d 958, 966 (Fed. Cir. 2000) (quotation omitted). “By the same token,  
12 the claims cannot enlarge what is patented beyond what the inventor has described in the  
13 invention.” Abbott Labs., 566 F.3d at 1288 (internal quotation omitted).

14 Pursuant to the definiteness requirement in Section 112 of the Patent Act, “[t]he  
15 specification shall conclude with one or more claims particularly pointing out and distinctly  
16 claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112,  
17 ¶ 2. Whether a claim satisfies this requirement is a matter of law determined by the Court  
18 construing the patent claims. Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342,  
19 1347 (Fed. Cir. 2005) (citing 35 U.S.C. § 112, ¶ 2.) “[T]he purpose of the definiteness  
20 requirement is to ensure that the claims delineate the scope of the invention using language  
21 that adequately notifies the public of the patentee’s right to exclude.” Id. Thus, the  
22 standard for determining indefiniteness is whether “the claims at issue are sufficiently  
23 precise to permit a potential competitor to determine whether or not he is infringing.”  
24 Exxon Research & Eng’g Co. v. U.S., 265 F.3d 1371, 1375 (Fed. Cir. 2001) (quotation and  
25 alteration omitted). However, because of the statutory presumption of patent validity, claim  
26 terms are considered invalid for indefiniteness “only if reasonable efforts at claim

1 construction prove futile.” Id. Clear and convincing evidence therefore must be shown to  
2 invalidate a patent. Datamize, 417 F.3d at 1348.

3 In addition to the specification, the Court also should consider the patent’s  
4 prosecution history which consists of “the complete record of the proceedings before the  
5 PTO and includes the prior art cited during the examination of the patent.” Phillips, 415  
6 F.3d at 1317. However, because the prosecution represents an “ongoing negotiation” rather  
7 than the “final product” of the negotiation, “it often lacks the clarity of the specification and  
8 thus is less useful for claim construction purposes.” Id. Consulting the prosecution history  
9 can, however, be helpful in determining whether the patentee disclaimed an interpretation  
10 during prosecution. Research Plastics, Inc. v. Federal Packaging Corp., 421 F.3d 1290,  
11 1296 (Fed. Cir. 2005). “Under the doctrine of prosecution disclaimer, a patentee may limit  
12 the meaning of a claim term by making a clear and unmistakable disavowal of scope during  
13 prosecution.” Purdue Pharma L.P. v. Endo Pharm. Inc., 438 F.3d 1128, 1136 (Fed. Cir.  
14 2006).

15 If the claim language is not clear after reviewing all intrinsic evidence, then the  
16 Court may refer to extrinsic evidence such as expert testimony, inventor testimony,  
17 dictionaries, and learned treatises. Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206  
18 F.3d 1408, 1414 (Fed. Cir. 2000). “Relying on extrinsic evidence to construe a claim is  
19 proper only when the claim language remains genuinely ambiguous after consideration of  
20 the intrinsic evidence. Such instances will rarely, if ever, occur.” Interactive Gift Exp.,  
21 Inc., 256 F.3d at 1332 (internal quotation omitted).

### 22 **III. DISCUSSION**

23 Having considered, in accord with the standards above, the arguments of counsel  
24 presented in the briefs and at the hearing conducted May 27, the Court construes the patent  
25 terms as follows.

26 ///

**A. The Gutierrez/'936 Patent**

**1. Substrate Being Disposed in a Substantially Horizontal Orientation & Horizontal Disposition**

The parties dispute the meaning of “substrate being disposed in a substantially horizontal orientation” and “horizontal disposition” as the terms are used in claims 1 and 37. (Decl. in Support of Halo’s Opening Br., Ex. A at 23 (16:17-18), 25 (20:25).)

<b>Plaintiff Halo’s Proposed Construction</b>	<b>Defendant Pulse’s Proposed Construction</b>
Indefinite because claims lack an objective anchor and cannot be construed.	These terms do not require construction by the Court, as the plain and ordinary meaning of each term is understood by one of ordinary skill in the art.

Beginning with the claim language, neither claim 1 nor claim 37 provide an objective anchor to inform a party to what the substrate in claim 1, and the insert body in claim 37, are horizontal. The prosecution history explains that “substantially horizontal” was included to further clarify why the present invention differed from the Imschweiler prior art, but it does not help to clarify to what the relevant element is horizontal. (Decl. in Support of Halo’s Opening Br., Ex. B at 103-04.) Moreover, because the object can be disposed so that any of its sides are horizontal to the ground, the Court finds an objective anchor is necessary to clarify the claim term. Figure 3a of the Patent and its corresponding specification establishes that the substrate is “disposed horizontally and in substantially coplanar orientation with the insert element.” (*Id.*, Ex. A at 5, 20 (10:3-4).) Figure 1a establishes that the insert element is inserted in the housing of the modular connector along the bottom interior surface of the housing. (*Id.*, Ex. A at 4.)

**The Court therefore holds that “substrate being disposed in a substantially horizontal disposition” in claim 1 means horizontal to the insert element, and “horizontal disposition” in claim 37 means horizontal to the bottom interior surface**

1                   2. Bottom Interior Surface

2                   The parties dispute the meaning of “bottom interior surface” as it is used in  
3 claims 11-14. (Decl. in Support of Halo’s Opening Br., Ex. A at 24 (17:13-28).)

4 <b>Plaintiff Halo’s Proposed Construction</b>	5 <b>Defendant Pulse’s Proposed Construction</b>
6                   Indefinite because claims lack an objective anchor.	7                   This term does not require construction by the Court, as the plain and ordinary meaning of each term is understood by one of ordinary skill in the art.

8                   Based on the plain language of the claim, it is unclear what “bottom” means as  
9 there is no objective anchor, and depending on how the invention is disposed, any side can  
10 constitute the bottom. Pulse contends the top of the modular connector is established by the  
11 location of the tab for the modular plug, as shown in Figure 1a. (See id., Ex. A at 4.) **The  
12 Court therefore holds that “bottom interior surface” means the opposite surface from  
13 where the modular plug tab is located.**

14                   3. Majority of Length of Said First Conductors Disposed Away From Said Electronic Components

15                   The parties dispute the meaning of “majority of length of said first conductors  
16 disposed away from said electronic components” as it is used in claim 23. (Decl. in Support  
17 of Halo’s Opening Br., Ex. A at 24 (18:20-25).)

18 <b>Plaintiff Halo’s Proposed Construction</b>	19 <b>Defendant Pulse’s Proposed Construction</b>
20                   Indefinite.	21                   This term does not require construction by the Court, as the plain and ordinary meaning of each term is understood by one of ordinary skill in the art. Alternatively, to the extent the Court requires a construction, the term should be construed as “more than half of the length of said first conductors are not directly proximate to said electronic components.”



The Court finds that a person of ordinary skill in the art would understand “majority” to mean more than half. However, the term “disposed away” from in the context of the claim language is ambiguous. The claim’s plain language explains that the purpose behind disposing the conductors away from the electronic components is to minimize the electromagnetic interaction between the electronic components and the first conductors. (*Id.* at 24 (18:20-25).) However, the purpose does not help to clarify what “disposed away from” means. In the prosecution history, the inventor attempted to distinguish the present invention from the Imschweiler prior art by arguing that the prior art teaches placing large portions of conductors directly proximate to the electronic components, whereas the present invention teaches separating conductors from the electronic components. (*Id.*, Ex. B at 104.) The prosecution history explains that the term “disposed away from” should be interpreted as opposed to “directly proximate to” the electronic components. This proposal clarifies that, in the context of the claim, “disposed away” is not meant to be a nature of degree, but simply a distinguishing characteristic from the prior art.

**The Court therefore holds that a “majority of length of said first conductors disposed away from said electronic components” means that “a majority of length of said first conductors are not directly proximate to said electronic components.”**

4. Said First Conductors Being Configured to . . . Form at Least One Electrical Pathway Between Said First Conductors and at Least One of Said Plurality of Conductive Pathways of Said Substrate

The parties dispute the term as it is used in claim 1. (Decl. in Support of Halo’s Opening Br., Ex. A at 23 (16:22-26).)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
Contains nonsensical limitation that renders the claim incapable of construction.	This term does not require construction by the Court, as the plain and ordinary meaning of each term is understood by one of ordinary skill in the art.

Based on a plain reading of the claim language, the claim explains that the conductors are configured in such a way that there is an electrical pathway between the conductors and the conductive pathways within the substrate. **The Court therefore holds that the claim does not require construction by the Court, as the plain and ordinary meaning of each term is understood by one of ordinary skill in the art.**

#### 5. Conductive Pathways

The parties dispute the term “conductive pathways” as it is used in claim 1. (Decl. in Support of Halo’s Opening Br., Ex. A at 23 (16:15-16).)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
Conductive traces embedded in or on the substrate through which signals may pass.  * A previous construction (Aug. 21, 2009): Traces embedded in the substrate through which electrical signals may pass.	No construction is required, as the plain meaning of the term is apparent. Alternatively, the term should be construed as “paths, formed of one or more conductive materials, through which electrical signals may pass.”

The parties agree that “conductive pathways” must pass electrical signals. However, they dispute whether “conductive pathways” are limited to traces and whether the pathways must be part of the substrate. Because the claim language already associates the conductive pathways with the substrate, it is unnecessary to include the limitation in the claim construction.

With respect to whether “traces” should be an included construction limitation, the patent specification and associated claim language makes clear that “conductive pathways” is not synonymous with “traces.” In the specification it states “[i]n the illustrated embodiment, the substrate element 301 comprises a printed circuit board (PCB) having a plurality of . . . surface mount contact pads and conductive traces of the type well known in the art, although other substrate technologies may be substituted.” Additionally, in comparing claim 1 to claim 15, claim 15 states “a substrate . . . having a plurality of

conductive traces associated therewith.” (*Id.* at 20 (10:4-9), 24 (17:40-45).) Thus, the use of a substrate with conductive traces in claim 15 illustrates the inventor’s intent that claim 1 have a different scope. Indeed, a substrate consisting of traces and pads, as it is shown in the preferred embodiment, is simply one technological possibility.

**The Court therefore holds “conductive pathways” means “paths through which electrical signals may pass.”**

#### 6. Second Conductors

The parties dispute the term “second conductors” as it is used in claims 1, 23, and 37. (Decl. in Support of Halo’s Opening Br., Ex. A at 23 (16:28-29), 24 (18:26-29), 25 (20:21, 36-37).)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
Conductors that provide a path for the transmitted signal from the conductive pathways or traces to the external device.  <b>Alternative proposition:</b> Conductors that provide a path for the transmitted signal and that are adapted to electrically interface with the external device.	No construction is required, as the plain meaning of the term is apparent. Alternatively, the term should be construed as “conductors that are separate and distinct from the first conductors.”

The claim’s plain language establishes that second conductors are those conductors that provide a path for the transmitted signal. (*See id.*, Ex. A at 23 (16:28-32).) In contrast, the third conductors are those conductors associated with the optional LED lights. (*Id.* at 25 (20:10-18).) Accordingly, the claim language establishes that the second conductors are more than just those conductors that are separate and distinct from the first conductors. It is unnecessary, however, to include a limitation that the second conductors are adapted to electrically interface with the external device because in some claims it is redundant, and in others the claim language does not make it a requirement. (*See id.* at 23 (16:28-33) & 25 (20:38-45).)

1           The Court therefore holds “second conductors” means “conductors that  
2 provide a path for the transmitted signal.”

3  
4           **B. The Shutter/‘963 Patent**

5                 1. Contour Element

6           The parties dispute the claim term “contour element” as it is used in claims 1, 16  
7 and independent claims 19, 27, and 29 in the ‘963 Patent. (Decl. in Support of Halo’s  
8 Opening Br., Ex. C at 26 (9:10, 20; 10:6, 15, 35, 51), 27 (11:27, 43, 67; 12: 8, 13-14).)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
A raised or recessed feature that physically contacts the bend of an electrical lead both before and after the modular plug is inserted into the cavity.	A feature with a distinct shape, such as a bump, notch, tab, or recess.

14           Pursuant to the plain and ordinary language in claim 1 and 16, the purpose of  
15 the bend in the electrical lead is to “engage with contour element,” and the purpose of  
16 the contour element is to “retain first leads w/in cavity” and “to cooperate with bend to  
17 maintain first leads in contact with electrical leads of modular plug.” (*Id.* at 26 (9:12-  
18 19; 10:12-20).) Additionally, in claim 19, which explains a method of manufacturing a  
19 microelectronic connector, the second leads are configured in a shape “which  
20 substantially engages” the contour elements of the first connector “upon mating,” and  
21 when the second leads are inserted into the cavity, they “cooperate” with the contour  
22 elements. (*Id.* at 26 (10:43-51).) Although the prosecution history shows that the  
23 patentee deliberately distinguished between the words “cooperate” and “engage,” the  
24 patent claims use the terms “cooperate” and “engage” interchangeably to describe the  
25 relationship between the electrical lead bend and the contour element. (Decl. of  
26 Kristopher Reed in Support of Responsive Claim Constr. Br. of Defs. Pulse Eng’g, Inc.

1 & Technitrol, Inc. (Doc. #116), Ex. B at 7-9.)

2           The purpose of the engagement between the contour element and the  
3 electrical lead is to “maintain the lead in contact with the modular plug.” (Decl. in  
4 Support of Halo’s Opening Br., Ex. C at 27 (11:54-60).) Further, according to the  
5 summary of the invention, at least one of the purposes of the present invention was to  
6 utilize a design wherein the use of adhesives was unnecessary to keep the front  
7 connector body element connected to the rear connector body element. (See id. at 22  
8 (1:55-59) & 23 (3:8-12).) Thus, the invention necessarily requires constant physical  
9 contact between the contour element and the electrical leads.

10           The specification also explains the shape of the contour element. With  
11 respect to one embodiment, the specification states:

12           These contour elements **140** are raised, somewhat rounded  
13 “bumps” in the present embodiment, although it will be  
14 appreciated that other element shapes and configurations (Such as  
15 notches, tabs or recesses) may be used.

16 (Id. at 23 (4:53-57).) The Court finds Pulse’s proposed construction that the contour  
17 element be a feature with a distinct shape could include an infinite number of shapes,  
18 and as such, is not sufficiently descriptive.

19           **The Court therefore holds that “contour element” means “a raised or  
20 recessed feature that physically contacts the bend of an electrical lead both before  
21 and after the modular plug is inserted into the cavity.”**

## 22           **C. Halo’s Patents (‘985, ‘720, ‘721, ‘785, and ‘431)**

### 23           **1. Electronic Surface Mount Package**

24           The parties dispute the term “electronic surface mount package” as it is used  
25 in the preamble of Patents ‘985, ‘720, ‘721, ‘785. (Decl. in Support of Pulse’s  
26 Opening Br., Exs. A-E.)

Plaintiff Halo's Proposed Construction	Defendant Pulse's Proposed Construction
The phrase is not a claim limitation and need not be construed. Alternatively, the phrase should be construed as "an electronic device configured to attach to the surface of a printed circuit board."	A surface mounting package that is for DC voltages only in which one or more toroid transformers are embodied.

“Whether to treat a preamble as a limitation is a determination resolved only on review of the entire patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” Cataline Mktg. Int’l, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002) (internal quotation and alteration omitted). “In general, a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” Id. (internal quotation omitted). “Conversely, a preamble is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” Id. (internal quotation omitted). Although there is no specific test for determining when a preamble limits claim scope, some guideposts have emerged. One important guidepost recognizes that “clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention.” Id. Alternatively, “preambles describing the use of an invention generally do not limit claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure.” Id. at 809.

It is unnecessary to include in the construction of the preamble the limitation that the electronic surface mount package includes one or more toroid transformers in

1 because the claim language already includes the limitation. Thus, the parties only  
2 dispute is whether the claim should be limited to “DC voltages only.”

3         The preamble should not be construed as a claim limitation because the  
4 claim describes a structurally complete invention in the claim body, and there was no  
5 express disclaimer in the prosecution history that limited the present invention to DC  
6 voltages only. In distinguishing the present invention from the Flentge prior art, the  
7 prosecution history states “[t]he present invention is directed toward applications for  
8 packages mounted on a printed circuit board in an electronic device, which requires  
9 very low current and voltages, and is for DC voltages only.” (Decl. in Support of  
10 Pulse’s Opening Br., Ex. K at 5.) Based on the sentence’s structure, the Court finds the  
11 distinction was not referencing the present invention, but instead refers to what the  
12 package is mounted on—a printed circuit board that is for DC voltages only. This  
13 interpretation is consistent with the Flentge prior art, which is intended for applications  
14 that use AC voltage. (Id.)

15         Construing the term as Pulse suggests would be inconsistent with what one  
16 of ordinary skill in the art would understand and it would exclude the preferred  
17 embodiment of the patent. The summary of the invention states that the present  
18 invention is an “improved electronic surface mount package” which suggests there is a  
19 common understanding of electronic surface mount packages in the art, and Halo’s  
20 invention is simply an improved version of the device. (Decl. in Support of Pulse’s  
21 Opening Br., Ex. A at 8 (1:16-17).) Although the Court typically should not rely on  
22 extrinsic evidence, “[b]ecause the meaning of a claim term as understood by persons of  
23 skill in the art is not often immediately apparent,” the court may consider “extrinsic  
24 evidence concerning relevant scientific principles, the meaning of technical terms, and  
25 the state of the art” to determine what one of ordinary skill in the art would understand  
26 the term to mean. Phillips, 415 F.3d at 1314.

1           Halo's expert Ian Crayford ("Crayford") states that one of ordinary skill in  
2 the art would understand that surface-mount packages with toroid transformers, which  
3 is the preferred embodiment disclosed in the patents, are intended to be "used in  
4 applications with two circuits that operate on different DC voltages and where AC  
5 voltages are transferred between the two circuits," and the "DC voltages only"  
6 statement refers to "the printed circuit boards that are powered with DC voltages."  
7 (Decl. of Ian Crayford ["Crayford Decl."] (Doc. #113) at ¶¶ 8-19.) Additionally,  
8 Crayford states that one of ordinary skill in the art "would not understand this  
9 statement to mean that Halo's devices do not work with AC voltage signals because the  
10 very purpose of the disclosed isolation transformers in the Halo patents is to isolate DC  
11 voltages so that the AC networking signals can pass between the two circuits." *Id.* at ¶  
12 19.

13           Pulse contends the Court should not consider Crayford's Declaration  
14 because his credibility is questionable as he was a consultant for Halo during the  
15 pendency of this litigation. (Crayford Depo. at 26-27.) The Court agrees that the  
16 weight to be given to Crayford's expert opinion is limited by the factors Pulse cited.  
17 However, Pulse fails to offer any evidence of its own to contradict Crayford's  
18 conclusion as to what one of ordinary skill in the art would understand the present  
19 invention to be.

20           **The Court therefore holds the term "electronic surface mount package"**  
21 **is "an electronic device configured to attach to the surface of a DC voltage only**  
22 **printed circuit board."**

23           2. By/In a Soft Silicone Material

24           The parties dispute the term "by/in a soft silicone material" as it used in  
25 Patents '985 claims 1-21, '720 claims 2-4, and '785 claims 2, 16, 25. (Decl. in Support  
26 of Pulse's Opening Br., Exs. A, B, E.)



Plaintiff Halo's Proposed Construction	Defendant Pulse's Proposed Construction
<p>The claim elements should be construed separately and in a manner consistent with the actual language of the claims.</p> <p><b>Carried Within Said Package by a Soft Silicone Material</b> ('985 claims 1-2, 6, 8; '785 claim 2): Situated inside the package and supported by soft silicone material.</p> <p><b>Within Said Package in a Soft Silicone Material</b> ('720 claims 2-4, 6): Situated inside the package in contact with a soft silicone material.</p> <p><b>Within the Package and Secured by a Soft Silicone Material</b> ('785 claims 16, 25): Situated inside the package and held in place by a soft silicone material.</p> <p><b>Soft Silicone Material:</b> A silicone material that is resilient so as to allow expansion of the toroid when heated.</p>	<p>Retained inside the construction package by a silicone material that is not a hard plastic or a cured or hard epoxy.</p>

Though they differ slightly, the plain language of the claims establish that the common purpose of the silicone material is to keep the toroid transformers in the package. Moreover, without the silicone material, there is nothing to keep the toroid transformers from falling out of the open-bottom package. Therefore, the use of the term "retain" is an appropriate description of the purpose of the silicone material.

With respect to how to construct soft silicone material, the specifications for the patents explains that the purpose of the material is to allow for toroidal expansion when the toroid is heated. (See id., Ex. B at 10 (2:48-53).) Additionally, in the specifications, the inventors discuss the problems with using hard plastics or a hard epoxy type material as it has a tendency to crack the package during heating. (See id., Ex. B at 10 (1:22-23, 2:45-54); Ex. C at 9 (1:22-33, 2:45-54).) While the purpose of the silicone material clarifies its meaning, one of ordinary skill in the art would

1 understand that soft silicone plastic does not mean hard plastic or epoxy.

2           **Based on the plain language of the claim terms and the specification, the**  
 3 **Court holds “by/in a soft silicone material” as it is used in the various patents**  
 4 **means “retained inside the package by a soft silicone material.” Additionally, a**  
 5 **“soft silicone material” means “a silicone material that is resilient so as to allow**  
 6 **expansion of the toroid when heated.”**

7           3. Separated From One Another So as to Avoid Arcing

8           The parties dispute the term “separated from one another so as to avoid  
 9 arcing” as used in Patents ‘985 claim 5, ‘720 claim 5, and ‘785 claim 8, 13, 22, 31.  
 10 (Decl. in Support of Pulse’s Opening Br., Exs. A, B, E.)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
Separated from one another by at least a distance that is roughly the same as the width of the posts.	Claim term is indefinite pursuant to 35 U.S.C. § 112.

15           The claim’s plain language does not explain how far apart the posts must be  
 16 from each other to avoid arcing. However, in the file history of the ‘720 Patent, the  
 17 inventor explained that to avoid arcing the “pin spacing must be about the same as the  
 18 pin width, roughly.” (Decl. of William Woodford in Support of Halo’s Responsive  
 19 Claim Constr. Br. [“Decl. in Support of Halo’s Responsive Br.”] (Doc. #114), Ex. D at  
 20 19.) Based on the explanation in the ‘720 Patent’s file history, a person with ordinary  
 21 skill in the art would be able to determine how far apart the pins are in the present  
 22 invention. **Therefore, the Court construes “separated from one another so as to**  
 23 **avoid arcing” to mean “separated from one another by at least a distance that**  
 24 **roughly is the same as the width of the posts.”**

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1                                    4. Standoff/Safeguard

2                    The parties dispute the term “standoff/safe guard” as it is used in Patents  
3 ‘985 claim 7, ‘720 claims 5, 7, 8, ‘721 claims 7, and ‘785 claims 9, 17, 18-19, 34.  
4 (Decl. in Support of Pulse’s Opening Br., Exs. A, B, C, E. )<sup>3</sup>

<b>Plaintiff Halo’s Proposed Construction</b>	<b>Defendant Pulse’s Proposed Construction</b>
A portion of the case that extends below the solder posts that is capable of preventing the solder posts from contacting the printed circuit board.	A portion of the construction package designed to rest in contact with the printed circuit board after mounting in order to raise the remainder of the package off the printed circuit board for easy cleaning, and to ensure that the pin posts do not touch the printed circuit board.

11                    The parties do not dispute that the stated purpose of the claimed standoff is  
12 to prevent the posts from contacting the PC board. The dispute lies in (1) whether to  
13 do so, the standoff necessarily must be in contact with the PC board, and (2) whether  
14 the reference to “easy cleaning” in the prosecution history constitutes an express  
15 disclaimer.  
16

17                    The claims’ plain language does not clarify whether the standoff is in contact  
18 with the PC board. Additionally, both parties agree that Figures 5 and 6 and their  
19 corresponding specifications are ambiguous. Pulse contends the figures represent the  
20 device prior to being pressed down on the PC board, which explains why the terminal  
21 pin is .015 inches below the PC board. Conversely, Halo contends a mistake was made  
22 when drawing the figures as the location of the PC board should have been drawn as  
23 coplanar with the terminal pin, not the standoff. Additionally, Halo contends Pulse’s  
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25                    <sup>3</sup> Halo agrees the claim term “standoff” and “safeguard” have the same meaning and  
26 are used interchangeably throughout the patents. (Halo Br. in Opp’n to Pulse’s Opening Claim Constr. Br. (Doc. #112) at 19-20.)

1 interpretation is incorrect as the device was not designed to be pressed down on the PC  
2 board with such force as to bend the terminal pin .015 inches during application.

3         Reading the claims in view of the specification in which they are part,  
4 Pulse's proposed resolution of the ambiguity in the figures is more persuasive. The  
5 specification states "FIG. 5 shows the stand off 34, in which the parts typically are  
6 placed automatically by machine onto a PC board. They are pressed down as it  
7 desirable to have some limitation of how far they can be pressed." (Decl. in Support of  
8 Pulse's Opening Br., Ex. A at 8 (2:37-43).) The specification also states "FIG. 6 shows  
9 the distance in relationship between the end of the post 12 and where the PC board 36  
10 is located and also where the standoff 34 ends. The PC board 36 would be at the base  
11 of the foot." (Id. at 8 (2:44-47).) Thus, the specification supports the interpretation  
12 that Figure 6 represents the device prior to being mounted, with the PC board being  
13 coplanar with the base of the foot or terminal pin after the device is mounted and  
14 pressed on the PC board.

15         With respect to whether the proposed construction should include language  
16 that the standoff keeps the package off the PC board for easy cleaning, the prosecution  
17 history referencing this primarily discusses the superiority of the post design and only  
18 mentions the "easy to clean" aspect to the standoff as one of its advantages. (See Decl.  
19 in Support of Pulse's Opening Br., Ex. O at 8.) Thus, the reference cannot be  
20 construed as an express disclaimer.

21         **The Court therefore holds "standoff/safeguard" to mean "a portion of**  
22 **the package designed to rest in contact with the printed circuit board after**  
23 **mounting in order to prevent the solder posts from contacting the printed circuit**  
24 **board."**

25 ///

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1                                5. Extending Through and Below a/the Bottom of Said Side Wall

2                                The parties dispute the term “extending through and below a bottom of said  
3 side wall” and “extending through and below the bottom of said side wall” as it is  
4 found in Patents ‘721 claims 1-2, 6, and ‘720 claims 1-4, 6, respectively. (Decl. in  
5 Support of Pulse’s Opening Br., Exs. B, C.)

6 <b>Plaintiff Halo’s Proposed Construction</b>	7 <b>Defendant Pulse’s Proposed Construction</b>
8                                Ordinary meaning.	<p>9                                Extending through and below one of the bottom surfaces of the said sidewall.</p> <p>10                                <b>Compromised Construction:</b> Extending through and below the portion of the sidewall from which they emerge.</p> <p>11                                Extending through said sidewall and below the plane of the lowest surface of said side wall.</p>

12  
13  
14                                The plain language of the claim explains that the post extends through and  
15 below the side wall. Although the patents use slightly different language (i.e. “a” vs.  
16 “the”), the distinction is irrelevant as they are both referencing the same side wall, and  
17 the post is extended through and below said side wall in the same way. **The Court**  
18 **therefore holds “extending through and below a/the bottom of said side wall”**  
19 **should be construed according to its ordinary meaning.**

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1                                    6. Hour-Glass Shaped Notch

2                    The parties dispute the term “hour-glass shaped notch” as it is used in Patent  
3 ‘720 claim 1. (Decl. in Support of Pulse’s Opening Br., Ex. B.)

4 <b>Plaintiff Halo’s Proposed Construction</b>	5 <b>Defendant Pulse’s Proposed Construction</b>
6                    A notch formed by two mirrored indentations on opposite vertical edges of the solder post.	7                    A notch formed by two mirrored indentations on opposite vertical edges of each solder post, such that no portion of either indentation is perpendicular to the vertical edges of either solder post.

8                    The plain language of the claim does not further clarify what shapes  
9 constitute an “hour-glass shaped notch.” However, a person of ordinary skill in the art  
10 would understand that an hour glass shape is not limited to shapes exactly replicating  
11 that of an hour glass. The Court therefore holds **“hour-glass shaped notch” means “a  
12 notch formed by two mirrored indentations on opposite vertical edges of the  
13 solder post.”**

14                                    7. In Gull Wing Fashion/Extends in Wing Like Fashion

15                    The parties dispute the term “in gull wing fashion” and “extends in wing like  
16 fashion” as it used in Patents ‘720 claims 1, 8, and ‘721 claims 1-2, 6. (Decl. in  
17 Support of Pulse’s Opening Br., Exs. B, C.)

18 <b>Plaintiff Halo’s Proposed Construction</b>	19 <b>Defendant Pulse’s Proposed Construction</b>
20                    Extending outwardly from the case, then extending in a downward fashion away from the case, and then extending outwardly from the case.	21                    Extending horizontally outward from the sidewall for some length; sloping downward for some intermediate, non-vertical length; and concluding with another horizontal length.

22                    The plain language of claim does not help to clarify what the inventors  
23 intended a “gull-wing” shape to mean. Reading the prosecution history in context, the  
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prosecution history disclaimed the Matsuma prior art as not being in a gull wing shape because the majority of the post was enclosed in the package and therefore did not extend outwardly from the case. (See id., Ex. R at 6.) Additionally, although the inventors may have made a clear and unmistakable disavowal that their invention was distinct from the Renskers prior art and the McCormick prior art in view of Matsumura, the distinction does not support Pulse’s conclusion that claim construction must include language limiting the angles of the segments in a “gull-wing” or “wing like” design.

Moreover, claim’s plain language does not support Pulse’s more limited construction as it does not limit the angles of a “gull-wing.” Even if the figures in the patent illustrate a design amenable to Pulse’s construction, those figures merely illustrate a preferred embodiment of the patent. The Court will not import limitations from preferred embodiments when the claim language is broader than such embodiments.

**The Court therefore holds “in gull wing fashion” and “extends in a wing like fashion” to mean “extending outwardly from the case, then extending in a downward fashion away from the case, and then extending outwardly from the case.”**

8. Means for encapsulating the plurality of toroid transformers within the package

The parties dispute the term “means for encapsulating the plurality of toroid transformers within the package” as it is used in Patent ‘785 claim 26. (Decl. in Support of Pulse’s Opening Br., Ex. E.)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
(1) Function: embedding the plurality of toroid transformers within the package; (2) Corresponding structure: a silicone	A soft silicone material that covers and retains the plurality of toroid transformers within the package.

compound, a silicone filling, or a soft silicone material and their equivalents	
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The parties agree the claim term is written in so called “means-plus-function” language, and as such, “shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶6. With respect to the function, as discussed above, the soft silicone material retains the toroid transformers inside the package, without which, the toroid transformers would have nothing to keep them in place. Additionally, the prosecution history of the ‘785 patent equates the term “encapsulate” with “embedding.” (See Decl. in Support of Halo’s Responsive Br., Ex. D at HALO-NV-0000640.) Pulse points to Figure 4 in the ‘785 patent to establish that the silicone material also covers the toroid transformers. (Decl. in Support of Pulse’s Opening Br., Ex. E at 4.) However, nothing in the claim language requires that the silicone material cover the toroid transformers, and the Court will not import limitations into the claims from the specification when the claim language is broader than such embodiments. Tate Access Floors, 222 F.3d at 966.

With respect to the structures included, Halo proposes including several structures. The structures Halo suggests, however, all refer to the same soft silicone material described in the patent. Accordingly, it is unnecessary to list the various descriptions for the same structure as a person of ordinary skill in the art would understand, for example, that soft silicone material and silicone compound are synonymous.

**The Court therefore holds “means for encapsulating the plurality of toroid transformers within the package” means “a soft silicone material that**



1 **embeds and retains the plurality of toroid transformers within the package.”**

2 9. End Wall

3 The parties dispute the term “end wall” as it used in Patents ‘985 claims 9,  
4 10, 16, 17, ‘720 claims 9, 10, 14, 15, ‘721 claims 8, 9, ‘785 claims 35, 36, 52, 53, and  
5 ‘431 claims 6, 7. (Decl. of Kristopher Reed in Support of Pulse Eng’g, Inc. &  
6 Technitrol, Inc.’s Opening Claim Constr. Br. Re: Claims Added During Reexamination  
7 of the Halo Patents [“Decl. in Support of Pulse’s Opening Br. Re: Added Claims”]  
8 (Doc. #158), Exs. A, B, C, D, E.)

Plaintiff Halo’s Proposed Construction	Defendant Pulse’s Proposed Construction
Ordinary meaning.	Synonymous with the terms “standoff” and “safeguard” previously identified as requiring construction by the Court, and should be construed the same as those terms.

14 The claim’s plain language clearly explains that the end wall is on opposite  
15 ends of the side walls. Although a standoff can be described as an end wall, the claim  
16 language does not support that the two terms are synonymous across all patents. For  
17 example, Patent ‘431 has an end wall but does not have a standoff. (See id., Ex J.)  
18 The Court therefore holds that the term “end wall” requires no construction by the  
19 Court and should be construed according to its ordinary meaning.

21 10. A Central Section of a Lower Surface of the End Wall

22 The parties dispute the term “a central section of a lower surface of the end  
23 wall” as it is found in Patents ‘985 claims 10, 17, ‘720 claims 10, 15, ‘721 claims 8, 9,  
24 ‘785 claims 36, 53, and ‘431 claim 7. (Decl. in Support of Pulse’s Opening Br. Re:  
25 Added Claims. Exs. A, B, C, E.)

1 2	<b>Plaintiff Halo's Proposed Construction</b>	<b>Defendant Pulse's Proposed Construction</b>
3 4	The portion of the end wall that extends below the solder posts and includes the center of the lower surface of the end wall.	This claim term is indefinite under 35 U.S.C. § 112, ¶ 2.

5 Although claim's plain language is somewhat ambiguous, a person of  
6 ordinary skill in the art would understand the claim to mean a portion of the end wall  
7 that extends below the posts and includes the center portion of the end wall. **The**  
8 **Court therefore holds that "a central section of a lower surface of the end wall"**  
9 **means "a central portion of the end wall that extends below the solder posts"**

10 11. A Resilient Material to Secure the Plurality of Toroid  
11 Transformers Within the Package

12 The parties dispute the term "a resilient material to secure the plurality of  
13 toroid transformers within the package" as it is use in Patents '721 claims 10, 13, '785  
14 claims 38, 42, 46, 50, and '431 claims 10, 14. (Decl. in Support of Pulse's Opening  
15 Br. Re: Added Claims, Exs. C, D, E.)

16 17	<b>Plaintiff Halo's Proposed Construction</b>	<b>Defendant Pulse's Proposed Construction</b>
18 19 20	Ordinary meaning; not governed by 35 U.S.C. § 112, ¶ 6.	This term falls under 35 U.S.C. § 112, ¶ 6 ("means-plus-function"). The corresponding material in the specification is a "soft silicone material that covers and retains the plurality of toroid transformers within the package."

21 Even where a claim does not use the word "means," it still may invoke  
22 "means-plus-function" treatment under § 112 if the term recites a function without  
23 reciting a sufficient structure for performing that function. See Mas-Hamilton Group  
24 v. LaGard, Inc., 156 F.3d 1206, 1214 (Fed. Cir. 1998); see also 35 U.S.C. § 112. In  
25 Mas-Hamilton, the Court found the term "non-resilient lever moving element" was  
26

1 described in terms of its function, not its mechanical structure, because the claim could  
2 not be construed so broadly as to include any conceivable way or means that would  
3 cause the lever to move. Mas-Hamilton, 156 F.3d at 1214.

4 The core of the parties' dispute is whether the term "resilient material"  
5 sufficiently describes the structure that "support[s] the plurality of toroid transformers  
6 within the package" or whether "resilient material" is a function that needs to be  
7 construed. Unlike the "lever moving element" in Mas-Hamilton, which could include  
8 any conceivable device that could move a lever, the resilient material in the patent must  
9 be able to retain the transformers in the package and be capable of expanding during  
10 heating. Thus, the term sufficiently describes a structure and not merely a function.


11 **The Court therefore holds "a resilient material to secure the plurality of**  
12 **toroid transformers within the package" should be construed according to its**  
13 **ordinary meaning.**

14 **IV. CONCLUSION**

15 IT IS SO ORDERED.

16 IT IS FURTHER ORDERED that the parties shall meet and confer and file  
17 with the Court their fifteen proposed asserted claims by June 28, 2010.

18  
19 DATED: June 14, 2010

20   
21 PHILIP M. PRO  
22 United States District Judge  
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24  
25  
26